Instructor: Dr. Eamonn Tweedy
Office: Hermann Brown 444
Email: eamonn@rice.edu
OH: W 4-5pm, Th 1:30-2:30pm

Lecture times: MWF 11:00-11:50am
Classroom: Herman Brown 423
TA: Corey Bregman
TA Recitation: W 7-8pm, HBH 423

Course Website: Look for "MATH 300 001 Sp14" on OWL-Space.

Textbook:

"Contemporary Abstract Algebra, 8^{th} Edition" by Joseph Gallian, ISBN: 9781133599708

Course description: This course will give a broad overview of groups, rings, and fields, with an emphasis on important examples and properties throughout. Time permitting, we will discuss applications such as cryptography, symmetry groups, and coding theory.

1. Group theory topics will include subgroups, cyclic groups, permutations, cosets and Lagrange's theorem, products, normal subgroups, factor groups, and group homomorphisms
2. Ring theory topics will include subrings, integral domains, polynomial rings, factoring, and divisibility
3. Field theory topics will include extension fields, splitting fields, fields of fractions, and finite fields

This course is not a typical MATH 300 "topics" course. It is intended as an alternative abstract algebra course for students who do not want to take the abstract algebra sequence MATH 356 - MATH 463. In particular, you may not receive credit for both this course and MATH 356. This course also satisfies the algebra breadth requirement for the MATH minor.

Prerequisites: MATH 102. Some background in proof-writing will be assumed. If this is your first proof-based class, please come talk to me. This course will also assume knowledge of the material presented in Chapter 0:"Preliminaries" from the textbook. Please review this material as soon as possible. A basic working knowledge of matrices will be useful for this class.

Grades: Your grade will be computed via the following scheme:

30% Homework + 20% Midterm 1 + 20% Midterm 2 + 30% Final

Attendance: Attendance is not a component of the class grade, but I expect you to attend every lecture and arrive on time. You will be responsible for all material covered and announcements made in class. While OWL-Space is a valuable resource, not all announcements are guaranteed to be posted there. Nevertheless, you will also be responsible for reading any emails that I send to the class.

Homework: Weekly homework assignments will be posted in the "Assignments" section of OWL-Space and will be (typically) due on *Fridays at the beginning of class or before class.* The first homework assignment will be due on *Friday, January 24. Late homework will not be accepted for any reason.* However, your single lowest homework score will be dropped.

Homework is not pledged, and you are encouraged to work with other students when solving homework problems. *However, your write-up should be your own work.* It is not acceptable to look up solutions to homework problems in any written form; *in particular, you are not allowed to look up solutions online.*

This class will require you to write proofs on homework and exams. Your solutions should include well-organized explanations, written in grammatically-correct English sentences. You will be graded not only on the mathematical content of your solutions, but also on the clarity and completeness of your exposition. Additionally, the following guidelines must be followed:

1. Solutions must be written neatly and legibly (or typed) and must appear in the order in which the corresponding problems are listed on the assignment.
2. Your name must be written at the top right of every page in your homework.
3. Submissions with several pages must be stapled together.
4. If your paper is torn from a spiral notebook, all "squigglies" must be removed from the edges before submitting.

Exams: There will be two in-class midterm exams and a scheduled final exam. *All exams will be pledged.* The midterm exam dates are given here:

Midterm 1	Monday, February 24 (in class)
Midterm 2	Wednesday, April 9 (in class)

The Office of the Registrar has not yet released the final exam schedule - this will occur later in the semester. It is the policy of the Department of Mathematics that no final may be given early to accommodate student travel plans. If your travel plans turn out to conflict with the final exam date, then it is your responsibility to either change them or take a zero on the final.

Recitations and Office Hours: There will be a weekly (optional) recitation session given by the TA. The time and location of this session will be announced once it has been scheduled. This session is a great place to get help if you are struggling with the course material!

I will also hold two weekly office hours in HBH 444 - the times can be found at the top of this syllabus. These office hours are on a walk-in basis, and are a great time to discuss homework, lecture material, or any other aspect of the course.

Expectations:

1. I don't expect you to follow all details of a math lecture in real time, but I do expect you to go home and fill in the gaps in your understanding between lectures. My goal is to distill a large amount of information into a concise presentation, and you should pay attention to my advice about what's important and what isn't.

2. I expect you to attend lecture and arrive on time. Regularly missing class puts you at a real disadvantage for effectively learning the material.

3. I expect you to utilize your classmates, the recitations, and office hours when you are struggling with a problem or have trouble understanding some aspect of the course material. It's better to ask early when the issue arises than to wait until you have many question or an exam is looming.

Honor Code:

You should be familiar with the Rice University Honor Code. The Honor Code Handbook can be found at

http://honor.rice.edu/honor-system-handbook/

Disability Support: Any student with a documented disability seeking academic adjustments or accommodations is requested to speak with me. All such discussions will remain as confidential as possible. Students requesting accommodations will also need to contact Disability Support Services in the Allen Center.

Disclaimer: I reserve the right to make changes to this syllabus and to course policies during the semester. Such changes will be announced in lecture and via OWL-Space when they are made. The copy of this syllabus available on OWL-Space will be kept up-to-date.